

Attachment D

California Energy Commission
Air Quality Self-Certification Checklist for Simple-Cycle Gas Turbine Generation Units

License Application for:

☒ New Emissions Unit(s) at a New Stationary Source☐ New Emissions Unit(s) at an Existing Stationary Source

DISTRICT: South Coast Air Quality Management District	DATE: June 22, 2001
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FACILITY INFORMATION

License to be Issued to: CENCO Electric Company		
Mailing Address: P.O. Box 2108		
City: Santa Fe Springs	State: CA	Zip Code: 90670-0180
Address Where Equipment Will be Operated: 12345 Lakeland Road		
City: Santa Fe Springs	State: CA	Zip Code: 90670
Nature of Business: Electric Power Generation	SIC Code:	
Facility Contact Person: Ed Gienger	Phone Number: (562) 944-6111	
	Fax Number: (562) 944-8522	
	Email: Egienger@cencorefining.com	
Application Information Contact Person (if different from above): June Christman	Phone Number: (562) 944-6111	
	Fax Number: (562) 903-8931	
	Email: Jchristman@cencorefining.com	
Will the facility be under contract to sell its power within California? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
If Yes, state the entity contracted with and the percentage of power that will be sold: Department of Water Resources – 48%		
What is the maximum total electrical output of the new power generation equipment at International Standards Organization (ISO) conditions? 51.5 MW		
Estimated construction start date: 07-23-01 Estimated completion date: 09-30-01		
Length of commissioning period (from date of initial startup): Approximately two weeks		

NEW EQUIPMENT INFORMATION

TURBINE #1	If multiple identical units, indicate number of units of this type: Two		
	Power Output	Nominal: 25.7 MW	Maximum: 27.7 MW
	Manufacturer: Pratt & Whitney		
	Model: FT8, Twin Pac configuration		
	Maximum Heat Input (based on HHV of fuel): 282 MMBtu/hr		
TURBINE #2	If multiple identical units, indicate number of units of this type: _____		
	Power Output	Nominal: _____ MW	Maximum: _____ MW
	Manufacturer: _____		
	Model: _____		
	Maximum Heat Input (based on HHV of fuel): _____ MMBtu/hr		

Suggested Best Available Control Technology (BACT)		Emission Level	Control Technology
	NOx	5 ppmv @ 15% O ₂ (1-hr rolling avg)	Selective catalytic reduction or equiv.
	CO	6 ppmv @ 15% O ₂ (1-hr rolling avg)	Oxidation catalyst or equivalent device
	VOC	2 ppmv @ 15% O ₂ (1-hr rolling avg)	Oxidation catalyst or equivalent device
	PM ₁₀	Emission limit corresponding to natural gas firing (PUC quality natural gas)	Natural gas firing (PUC quality natural gas)
	SO ₂	Emission limit corresponding to natural gas firing (PUC quality natural gas)	Natural gas firing (PUC quality natural gas)
	NH ₃	10 ppmv @ 15% O ₂ (1-hr rolling avg)	

Selective Catalytic Reduction Information, if applicable	If not indicated, please specify units of measurement:			
	Ammonia Storage Tank(s):	Tank type: Fixed roof, cylindrical		
		Number of tanks: One		
		Tank size: 12,000 gallons		
		Reactant type: [] Anhydrous ammonia [X] Aqueous ammonia [] Urea If aqueous ammonia, indicate ammonia concentration: 19.5%		
		Turnover rate: Four per year		
	SCR Manufacturer:	Peerless Manufacturing Company		
	SCR Make:			
	SCR Model:			
	Catalyst dimensions:	Length: 25 ft	Width: 12.5 ft	Height: 10 ft
	Pressure drop across SCR unit: Approximately 10 inches H ₂ O			
	Pressure drop across ammonia injection grid: Not specified			
	Space velocity (gas flow rate/catalyst volume): 200,000 hr ⁻¹			
	Area velocity (gas flow rate/wetted catalyst surface area):			

NEW EQUIPMENT INFORMATION (continued)

Selective Catalytic Reduction Information, if applicable (continued)	Manufacturer's guarantee:	Control efficiency: 80 %	Catalyst life: 3-years, guar.
	Ammonia injection rate: Approximately 40 lb/hr		
	NOx concentration into SCR unit: 25 ppmv Natural Gas / 70 ppmv Diesel Fuel, @ 15% O ₂		
	SO ₂ oxidation rate:	SO ₃ emissions:	
	Operating temperature range of catalyst: 550-750 F		
	Temperature at which ammonia injection will begin: 550 F		

Oxidation Catalyst Information, if applicable	If not indicated, please specify units of measurement:			
	Manufacturer:	Peerless Manufacturing Company		
	Make:			
	Model:			
	Catalyst dimensions:	Length:	Width:	Height:
	Pressure drop across catalyst:			
	Manufacturer's guarantee:	CO control efficiency:	75%	Catalyst life: 3 years guaranteed
		VOC control efficiency:	± 50 %	
	Space velocity (gas flow rate/catalyst volume): 80,000-120,000 hr ⁻¹			
	Area velocity (gas flow rate/wetted catalyst surface area):			
	Catalyst cell density (cells per square inch):			
	CO concentration into catalyst: 25 ppmv @ 15% O ₂			
	VOC concentration into catalyst: ~1 ppmv @ 15% O ₂			
	Operating temperature range of catalyst:			

Fuel Data	Fuel Type: Natural Gas / Diesel Back-up		Specify sulfur content if other than 5 gr/100 scf
	Higher Heating Value:	1020 Btu/scf / 139,000 Btu/gal	Sulfur Content: 0.75 gr/100 scf
	Maximum Fuel Consumption Rate: 0.28 MMscfh each / 2200 gal/hr		
	Exhaust Data:	Flow: 380,000 acfm each	

On-line Normalized Emission Rate	(If corrected to other than 15% O₂, indicate at right)			%O ₂
	Specify by units listed below or indicate other values and units at right:			
	NOx	5 ppmv / 7 ppmv diesel	lb/MMBtu	1-hr rolling avg.
	CO	6 ppmv / 60 ppmv diesel	lb/MMBtu	1-hr rolling avg.
	VOC	0.0021 lb/MMBtu, either fuel	lb/MMBtu	(AP-42)
	PM₁₀	0.0066 lb/MMBtu / 0.002 lb/gal	lb/MMBtu	(AP-42)
	SO₂	2.01 lb/MMscf / 0.0028 lb/gal	lb/MMBtu	(AP-42)
	NH₃	5 ppmv on a 1-hr rolling avg.	lb/MMBtu	

NEW EQUIPMENT INFORMATION (continued)

On-line Mass Emission Rate (each turbine) Rates based on 8,760 hours/yr operation. VOC & SO ₂ before catalytic oxidation.		lb/hour	lb/day	lb/qtr	tons/year
	NOx	5.1 / 6.8	122 / 162		22 / 30
	CO	3.7 / 54	90 / 1290		16 / 235
	VOC	0.59 / 0.13	14 / 3.1		2.6 / 0.6
	PM₁₀	1.9 / 3.7	45 / 89		8.1 / 16
	SO₂	0.56 / 6.19	13 / 150		2.4 / 27
	If applicable, NH₃	7.6	180		33
Startup and Shutdown Mass Emission Rate (per turbine)		Startup Emissions lb/hr, Natural Gas / Diesel		Shutdown Emissions lb/hr	
	NOx	30 / 40			
	CO	22 / 320			
	VOC	0.4 / 0.1			
	PM₁₀	1.3 / 0.3			
	SO₂	0.4 / 4.3			
Commissioning Period Mass Emission Rate (each turbine)		lb/hr		lb/day	
	NOx				
	CO				
	VOC				
	PM₁₀				
	SO₂				

Operating Parameters	Operating Hours:	hrs/day	hrs/qtr	hrs/yr
		24	2,190	8,760
	Startup Data:	Number of startups per day: Two, maximum		
		Number of startups per year: Estimated up to 50		
		Startup duration: 20 minutes		
	Shutdown Data:	Number of shutdowns per day: Two, maximum		
		Number of shutdowns per year: Estimated up to 50		
		Shutdown duration: 30 minutes		

NEW EQUIPMENT INFORMATION (continued)

Facility Annual Emissions and Emissions to be Offset Rates based on 8,760 hours/yr operation, with 80 hours diesel fuel backup.		Facility Annual Emissions [tons/yr]	Emissions That Need to be Offset				
			Q1 [lbs/qtr]	Q2 [lbs/qtr]	Q3 [lbs/qtr]	Q4 [lbs/qtr]	Annual [tons/yr]
	NO _x	55					
	CO	46					
	VOC	5.1					
	PM ₁₀	16					
	SO ₂	5.3					

Offsets to be Provided (If Necessary)		Offset Ratio	Offsets Required				Source of Offsets
			Q1 [lbs/qtr]	Q2 [lbs/qtr]	Q3 [lbs/qtr]	Q4 [lbs/qtr]	
	NO _x						<input checked="" type="checkbox"/> State bank* <input type="checkbox"/> District bank <input type="checkbox"/> Other, specify:
	CO						<input checked="" type="checkbox"/> State bank <input type="checkbox"/> District bank <input type="checkbox"/> Other, specify:
	VOC						<input checked="" type="checkbox"/> State bank <input type="checkbox"/> District bank <input type="checkbox"/> Other, specify:
	PM ₁₀						<input checked="" type="checkbox"/> State bank <input type="checkbox"/> District bank <input type="checkbox"/> Other, specify:
	SO ₂						<input checked="" type="checkbox"/> State bank <input type="checkbox"/> District bank <input type="checkbox"/> Other, specify:

Monitoring and Reporting	What is the make/model of the continuous emissions monitoring system (CEMS), if known? Make: Not yet determined Model: _____
	The following parameters will be continuously monitored: <input checked="" type="checkbox"/> NO _x <input checked="" type="checkbox"/> CO <input checked="" type="checkbox"/> O ₂ <input checked="" type="checkbox"/> Fuel flow rate <input checked="" type="checkbox"/> Ammonia injection rate <input type="checkbox"/> Other, please specify: _____
	Will the CEMS be used to measure both on-line and startup/shutdown emissions? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

*Note: The initial amount of NO_x offsets that can be acquired from the State bank is 21 tons/yr x the applicable offset ratio for each 50 MW of new generating capacity.